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EXAMINER
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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/722,234  
Filing Date: November 25, 2003  
Appellant(s): HERBAGE, DAVID W.

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Sarah Osborn Hill  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 9/12/07 appealing from the Office action mailed 9/1/06.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

4,662,265	BECKER et al.	5-1987
4,681,014	GASSLER et al.	7-1987
5,425,514	GROSSO	6-1995
3,245,318	FINKELSTEIN et al.	4-1966
4,149,166	NULL	4-1979

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 44 and 46-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Becker et al. (US Patent # 4,662,265), Gassler et al. (US Patent # 4,681,014), Grosso (US Patent # 5,425,514), Finkelstein et al. (US Patent # 3,245,318). With regards to independent claim 44 Becker et al. discloses a system for supporting a launch tube, the launch tube having the ability to launch any type of projectile. The system comprising a base (reference 10) that has the ability

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for supporting the system, a launch tube (reference 5) having a central axis (it is noted that when the launch tube is rotated about the trunion bearing pivot 35 the launch tube is capable of being oriented in a vertical position, whereby the central axis of the launch tube corresponds with the axis 11-12 about which the support platform 9 rotates), the tube can be oriented in any desired position including substantially vertically on the base, means for rotating (references 27, 28, 36 and 37) the launch tube about its axis while disposed on the base (launch tube 5 is rotated via the outer tubes 1, 2, and 9 in that, while the launch tube is pivotally attached to outer tube/support platform 9, it is rotationally fixed relative to 9). With regards to dependent claims 46-53 Becker et al. discloses the tube is housed in an outer tube (references 1, 2 and 9) affixed to the base, rotation of the launch tube has the ability to set the launch azimuth orientation of the projectile. Although Becker et al. does not expressly disclose the system comprising a decoy/countermeasure cartridge and protrusion and groove, Gassler et al. does. Gassler et al. teaches a missile alignment system comprising a countermeasure cartridge (as defined by applicant at page 54, countermeasure cartridge contains payload containing one or more appropriate decoys such as but not limited to infrared and/or radar-reflecting decoys, any device utilized to at least generally deceive distract, divert, lead, and/or lure away an incoming threat, as well as *any device utilized to destroy or deactivate such an incoming threat*), wherein at a least a portion of the counter measure cartridge is disposable within a launch tube (reference 6), wherein one of the countermeasure cartridge and launch tube comprises a protrusion (reference 32) and another of the countermeasure cartridge and launch tube comprises a groove (reference 10) complementarily configured to accommodate the protrusion and wherein a length of the groove is substantially parallel to the reference axis at least when the countermeasure cartridge is disposed

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within the launch tube (i.e. means for providing a zero-twist rifling). Gassler et al. discloses that the purpose of the system is to eliminate **rotational** movement or rifling during on-loading of the missile. Becker et al. and Gassler et al. are analogous art because they are from the same field of endeavor: defense systems. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the alignment system as taught by Gassler et al. with the launcher of Becker et al. The suggestion/motivation for doing so would have been to obtain a launcher that had decreased rotational movement during on-loading of the missile in order to decrease cable winding and increase precision. Although neither Becker et al. nor Gassler et al. expressly disclose the protrusion and groove as a zero twist longitudinal guide to effect non-rotational axial movement throughout a substantial portion of the launch, Finkelstein et al. does. Finkelstein et al. teaches a launcher comprising a guide (reference 44) and a groove attached to the missile to prevent rotation of the projectile during the launching stage (column 3, lines 35-45). Becker et al., Gassler et al. and Finkelstein et al. are analogous art because they are from the same field of endeavor: missile launching. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the track and guide as taught by Finkelstein et al. with the system of Becker et al. and Gassler et al. The suggestion/motivation for doing so would have been to obtain a system that prevented rotation of the missile during the launching stage as suggested by Finkelstein et al. Although neither Becker et al., Gassler et al., nor Finkelstein et al. expressly disclose the decoy cartridge having canard means and the specific control means, Grosso does. Grosso teaches a controlled projectile (reference 110) of the type having a propulsion means (column 1, lines 15-20) for launch from a launch tube, the projectile (which can be used for counter measures as defined by the current application) comprising a

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canard (reference 116) disposed thereon for adjustment of the pitch and trajectory (for controlling azimuth and elevation) of the cartridge during flight after launch from the tube. The cartridge further comprising internal control means (reference 120) preprogrammed for activation of a thruster and the canard. The projectile further including an onboard gyroscopic stabilization system to control at least one of roll, pitch and yaw of the projectile after launch, the gyroscopic stabilization system is linked to a database prior to launch whereby updated information is provided to the system. Gassler et al., Finkelstein et al., Becker et al., and Grosso are analogous art because they are from the same field of endeavor: defense systems. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the projectile as taught by Grosso with the launcher as taught by Gassler et al., Finkelstein et al. and Becker et al. The suggestion/motivation for doing so would have been to obtain a defense system that had a higher probability of hitting the target. All of the component parts are known in the references. The only difference is the combination of the "old elements" into a single device. Thus, it would be obvious to one having ordinary skill in the art to combine the various elements into a single system and use the known projectile elements with the known launcher elements, since the operation of the individual elements are in now way dependent on the operation of the other elements and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention. It is noted that the [a)statements of intended use or field of use, b)"adapted to" or "adapted for" clauses, c) "wherein" clauses, or d) "whereby"]clauses are essentially method limitations or statements of intended or desired use. Thus, these claims as well as other statements of intended use do not serve to patentably distinguish the claimed structure over that of the reference. See *In re Pearson*, 181 USPQ 641; *In*

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re Yanush, 177 USPQ 705; In re Finsterwalder, 168 USPQ 530; In re Casey, 512 USPQ 235; In re Otto, 136 USPQ 458; Ex parte Masham, 2 USPQ 2nd 1647.

See MPEP § 2114 which states:

A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from the prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ 2nd 1647

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than functions. In re Danly, 120 USPQ 528, 531.

Apparatus claims cover what a device is not what a device does. Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528.

As set forth in MPEP § 2115, a recitation in a claim to the material or article worked upon does not serve to limit an apparatus claim.

Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Becker et al., Gassler et al., Grosso, and Finkelstein et al. as applied to claim 44 above, and further in view of Null (US Patent # 4,149,166). Although neither Becker et al., Gassler et al., Grosso, nor Finkelstein et al. expressly disclose the countermeasure system containing a releasable decoy, Null does. Null teaches a countermeasure system wherein the countermeasure missile contains releasable decoys. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the releasable decoys as taught by Null with the system as taught by Becker et al., Gassler et al., Grosso, and Finkelstein et al. The suggestion/motivation for doing so would have been to obtain a system that was effective for protection against attacks utilizing Doppler seekers. All of the component parts are known in the references. The only difference is the combination of the “old elements” into a single device. Thus, it would be obvious to one having ordinary skill in the art to combine the various elements into a single system and use the known projectile elements with the known launcher elements, since the operation of the individual

elements are in now way dependent on the operation of the other elements and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

#### **(10) Response to Argument**

Initially appellant relies solely on the teaching, suggestion, or motivation (TSM) test as the only rationale that may be considered in supporting a conclusion of obviousness (Appeal Brief, pages 7 & 10-14). However, the Supreme Court has clearly stated that additional rationales may be relied upon in determining obviousness (*KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385). In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Appellant argues that Becker does not disclose means for rotating the launch tube about its axis, apparently confusing platform 9 of Becker et al. with appellant's claimed base (which actually corresponds with the base 10 of Becker et al.). Appellant acknowledges that support 9 rotates around its central axis, but apparently asserts that the central axis of support 9 does not correspond to the central axis of the launch tube. Becker et al. discloses that launch tube 5 is pivotally supported by support 9 by trunion bearing 35 and the launch tube may be mounted in any desired position about the pivotal axis 35 (it is noted that when the launch tube is mounted in vertical position, the axis of the launch tube would correspond to axis 11-12 which corresponds to the axis of the supports 1, 2 and 9 as well as to the base). Furthermore, Becker et al. provides drives (references 27 and 28) and rotating levers (references 36 and 37) which will rotate the

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launch tube about the axis 11-12 (the launch tube's axis when the launch tube is in the vertical position) via the supports 1, 2 and 9 since the launch tube is rotationally fixed to the supports but not pivotally fixed. With the launch tube in the vertical position, a projectile launched from the tube would be launched vertically. However Becker et al. does not teach any specific projectile for launching from the system and only discloses a system for rotating a launch tube. In response to applicant's arguments, the recitation the cartridge trained **only** in azimuth has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Appellant argues that Finkelstein et al. does not teach a missile launcher that is trained in azimuth by rotating a launch tube. It is noted that Finkelstein et al. is relied upon for teaching a launch tube having a zero twist longitudinal keyway therein that has the ability of effecting nonrotational axial movement therein and a countermeasure cartridge (as defined in the current application) having a guide key cooperable with a tube longitudinal keyway, the guide key and the keyway being disposed having the ability of interaction to effect nonrotational axial movement throughout a substantial portion of a launch. It is the combination of the references that is relied upon to reject the claims of the current application.

Appellant argues that there is not suggestion, motivation or teaching to combine the cited prior art. However the Supreme Court has clearly stated that additional rationales may be relied

upon in determining obviousness (*KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385). Appellant asserts that the guide system of Gassler is functional *only* during the loading process, however Gassler does not address whether the guide system is functional during the launching process as well. Regardless, Apparatus claims cover what a device is not what a device does. *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 15 USPQ2d 1525, 1528. A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from the prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ 2nd 1647. Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than functions. *In re Danly*, 120 USPQ 528, 531. Appellant further asserts that there is not motivation to combine Becker and Gassler. In response to applicant's argument that there is not need for a base to horizontally orient a missile launched from a silo, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Appellant further asserts that Grosso does not relate to self-propelled missiles such as those disclosed in the current application and the canards of Grosso are utilized for a different purpose than those in the current application. The current application defines "self-propelled" missiles include those that contain black-powder. The projectiles disclosed by both Grosso and Finkelstein qualify as “self-propelled” under appellant’s definition. With regards to canards, the intended utilization of the canards is irrelevant in that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from the prior art

apparatus. All of the component parts are known in Becker et al, Gassler et al. Finkelstein et al. and Grosso. The only difference is the combination of the "old elements" into a single device. Thus, it would be obvious to one having ordinary skill in the art to combine the various elements into a single system and use the known projectile elements with the known launcher elements, since the operation of the individual elements are in now way dependent on the operation of the other elements and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

In response to applicant's argument that the prior art is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, appellant is arguing for a narrow characterization of the art. However defense and weapons systems cover a broad area and one skilled in the art has good reason to pursue known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. One of ordinary skill in the defense and weapons art would likely look at all other weapon systems as well as other launching systems not just a narrow category of weapons such as appellant suggests. Appellant's arguments concerning Null are further related to the TSM test stating the Null discloses a system that is more complicated than the current application. It must be noted that Null is relied upon for the teaching of a releasable decoy, which Null discloses. The fact that Null discloses additional structure not claimed is irrelevant.

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**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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